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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,944	11/21/2003	Steven R. Sedlmayr	AUO1019	3586
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Law Office of Roxana H. Yang P.O. Box 400 Los Altos, CA 94023			EXAMINER FINEMAN, LEE A	
			ART UNIT 2872	PAPER NUMBER

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/718,944

Applicant(s)

SEDLMAYR, STEVEN R.

Examiner

Lee Fineman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 176-182, 185-196, 199-211, 214-224 and 227-232 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 176-182, 185-196, 199-211, 214-224 and 227-232 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/14/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to an amendment filed 29 December 2004 in which claims 185-188, 199-202, 214-216, 218 and 227-230 were amended and claims 183-184, 197-198, 212-213 and 225-226 were cancelled. Claims 176-182, 185-196, 199-211, 214-224 and 227-232 are pending.

Claim Objections

1. Applicant is advised that should claims 179, 193, 208, 221 be found allowable, claims 185, 199, 214, 227 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 176, 178-179, 181-182, 185, 187-189, 190, 192-193, 195-196, 199, 201-205, 207-208, 210-211, 214, 216-218, 220-221, 223-224, 227 and 229-232 are rejected under 35 U.S.C.

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103(a) as being unpatentable over Sato et al., U.S. Patent No. 5,042,921 in view of Atarashi et al., U.S. Patent No. 5,172,254.

Regarding 176, 179, 185, 189, 190, 193, 199, 203-205, 208, 214, 217, 221, 227 and 231-232, Sato et al. disclose in fig. 24 a system and method of producing a collinear beam of electromagnetic energy/light having two constituent parts, comprising

[a] means (701 and 707) for providing a substantially collimated (by 707) primary beam of electromagnetic energy/light having a predetermined range of wavelengths and randomly changing orientations of a chosen component of electromagnetic wave field vectors, which includes producing an initial beam of ultraviolet (column 22, line 44, a xenon lamp inherently has ultraviolet wavelengths);

[b] means (702) for resolving the primary beam of electromagnetic energy/light into a substantially collimated primary first resolved beam (travels toward 712) of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of the electromagnetic wave field vectors (P) and a primary second resolved beam (travels toward 726) of electromagnetic energy having substantially a second selected predetermined orientation of a chosen component of the electromagnetic wave field vectors (S);

[c] means (712, 713, 721, 722) for separating each of the primary resolved beams of electromagnetic energy/light into two or more substantially collimated separate beams of electromagnetic energy/light, each of the substantially collimated separate beams of electromagnetic energy/light having a selected predetermined orientation of a chosen component of electromagnetic wave field vectors (P or S);

[d] means (709, 710, 711, 718, 719, 720) for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of a plurality of portions of each of the substantially collimated separate beams of electromagnetic energy/light by passing the plurality of portions of each of the substantially collimated separate beams of electromagnetic energy/light through a respective one of a plurality of altering means whereby the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the plurality of portions of each of the separate beams of electromagnetic energy/light is altered in response to a stimulus means by applying a signal means to the stimulus means in a predetermined manner as the plurality of portions of each of the substantially collimated separate beams of electromagnetic energy/light passes through the respective one of the plurality of means for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors (column 23, lines 17-19);

[e] [i] means (708) for combining the substantially collimated altered separate beams of electromagnetic energy/light of the primary first resolved beam of electromagnetic energy/light into a first substantially collimated single collinear beam of electromagnetic energy/light without substantially changing the altered selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the plurality of portions of each of the substantially collimated separate beams of electromagnetic energy/light, and [ii] means (717) for combining the substantially collimated altered separate beams of electromagnetic energy/light of the primary second resolved beam of electromagnetic energy/light into a second substantially collimated single collinear beam of electromagnetic energy/light without substantially changing the altered selected predetermined orientation of the chosen component of the electromagnetic

wave field vectors of the plurality of portions of each of the substantially collimated separate beams of electromagnetic energy; and means (705) for passing the beams of electromagnetic energy/light to a projection means (20).

Sato et al. disclose the claimed invention except for [f] [i] means for resolving from the first substantially collimated single collinear beam of electromagnetic energy a substantially collimated first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a substantially collimated second resolved beam of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors, and [ii] means for resolving from the second substantially collimated single collinear beam of electromagnetic energy/light a substantially collimated first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a substantially collimated second resolved beam of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors; [g] means for merging one of the resolved beams of electromagnetic energy/light from the first substantially collimated single collinear beam of electromagnetic energy/light with one of the other resolved beams of electromagnetic energy/light from the second substantially collimated single collinear beam of electromagnetic energy/light into a substantially collimated third single collinear beam of electromagnetic energy/light, wherein the means for merging of the resolved beams includes means for merging of the resolved beams in which the plurality of portions of one of the merged beams has a different selected predetermined orientation of a chosen

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component of electromagnetic wave field vectors from that of the plurality of portions of the other merged beam; and means for passing the substantially collimated third single collinear beam of electromagnetic energy/light to a projection means.

Atarashi et al. teaches in fig. 5 a system and method of producing a collinear beam of electromagnetic energy/light having two constituent parts wherein the first single collinear beam (from 21RP) and the second collinear beam (from 18) are each resolved by means (17) into a first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors (column 9, lines 43-56) and then merged by a means (17) into a third single collinear beam of electromagnetic energy/light (column 9, lines 57-59) wherein the means (17) for merging of the resolved beams includes means for merging of the resolved beams in which the plurality of portions of one of the merged beams has a different selected predetermined orientation (S) of a chosen component of electromagnetic wave field vectors from that of the plurality of portions of the other merged beam (P) before passing to a projection means (19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add means to resolve and merge the beams as suggested by Atarashi et al. in the system of Sato et al. to further prevent unwanted stray light. Therefore, a substantially collimated third single collinear beam of electromagnetic energy/light will be formed and passed to the projection means. The method of utilizing the structure of the claim is inherent therein.

Regarding 178, 192, 207 and 220, Sato et al. further disclose wherein the means (702) for resolving the substantially collimated primary beam includes means (702) for resolving the substantially collimated primary beam into substantially collimated primary first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the first resolved beam has the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors different from the second selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the second resolved beam (S versus P).

Regarding claims 181-182, 187-188, 195-196, 201-202, 210-211, 216, 218, 223-224 and 229-230, Sato et al. in view of Atarashi et al. as set forth above disclose the claimed invention except for wherein the means for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel and partially coincident or simultaneous to the plurality of portions of the other merged beam. Atarashi further teaches that when a single means (17) is used to merge the resolved beams (fig. 5) each merged beam has its plurality of portions parallel and partially coincident (in so far as any portion is coincident) or simultaneous to the plurality of portions of the other merged beam. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace means for merging and the two projection means with the single means for merging and projection means of as further suggested by Atarashi et al. to reduce the number of parts and therefore the cost of the system.

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4. Claims 180, 186, 194, 200, 209, 215, 222 and 228 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Atarashi et al., as applied to claims 179, 193, 208 and 221 above, and further in view of Craig, U.S. Patent No 4,740,836.

Sato et al. in view of Atarashi et al., as applied to claims 179, 193, 208 and 221 above, disclose the claimed invention except where the each of the merged beams has its plurality of portion noncoincident to the plurality of portions of the other merged beam. Craig teaches systems for viewing images in which two images are noncoincident to provide stereoscopic or three-dimensional views to the user (column 1, lines 16-40 and figs. 1 and 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the images of Sato et al. in view of Atarashi et al. noncoincident to provide a three-dimensional projector which will work with many different stereoscopic imaging techniques like those suggested by Craig.

5. Claims 177, 191, 206 and 219 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Atarashi et al., as applied to claims 176, 190, 205 and 217 above, and further in view of Kurematsu et al., U.S. Patent No 5,237,435.

Sato et al. in view of Atarashi et al., as applied to claims 176, 190, 205 and 217 above disclose the claimed invention except for wherein the means for resolving the substantially collimated primary beam includes means for resolving the substantially collimated primary beam into substantially collimated primary first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of

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the first resolved beam has the same selected predetermined orientation of the chosen component of the electromagnetic wave field vectors as that of the second selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the second resolved beam. Kurematsu et al. teaches in fig. 1 wherein the primary first and second resolved beams (from elements 13 and 14) of electromagnetic energy/light have the same selected predetermined orientation of the chosen component of the electromagnetic wave field vectors (S). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the primary first and second resolved beams be the same predetermined orientation as suggested by Kurematsu et al. to provide the same light qualities to all the components for more consistent images.

Response to Arguments

6. Applicant's arguments filed 29 December 2004 have been fully considered but they are not persuasive.

Applicant argues that the modification to Sato changes the principle of operation and is therefore improper because the invention requires that the pixels be offset which is achieved only by using two projection lenses (remarks, pages 22-23). The examiner respectfully disagrees because Sato also states in column 24, lines 22-32 that:

“The present invention, however, is not limited to this arrangement. For example, as shown in FIG. 27, the pixels 729 of the image projected by the light rays having the P-polarized light component and the pixels 730 of the image projected by the

light rays having the S-polarized light component **may overlap each other**. In this case, although the duty ratio is the same as that obtained by the conventional apparatus and the contrast is not improved, the brightness and resolution can be doubled. Therefore, a clear projected image can be obtained.”

Therefore, Sato clearly has an embodiment wherein the beams overlap and the modification as suggested by Atarashi would not change the principle of operation nor render the invention unsatisfactory for its intended purpose.

7. It is noted by the Examiner that the drawing objections and 112 rejections made in the previous Office Action have been withdrawn due to amendment and persuasive arguments presented by the Applicant.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (571) 272-2313. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LAF
March 21, 2005


MARK A. ROBINSON
PRIMARY EXAMINER